



FACT SHEET

RANCHO SECO NUCLEAR POWER PLANT

Background

The Rancho Seco Nuclear Generating Station operated by the Sacramento Municipal Utility District (SMUD), began producing electricity in 1975. In June 1989, the residents of Sacramento County voted to shutdown the plant, and SMUD has been in the process of dismantling the plant since that time. During nuclear operations, the plant produced 493 spent nuclear fuel assemblies. These spent fuel assemblies, which are radioactive, measure 8.5 inches by 12 feet long, and are now stored at the plant in a specially designed, 40 foot deep, spent fuel pool of cooling water.

U.S. Department of Energy (DOE)

Disposal of used nuclear fuel is the responsibility of the U.S. federal DOE. DOE has selected a southern Nevada site, Yucca Mountain, for the permanent, underground disposal of the nation's spent fuel. However, environmental studies and facility licensing and construction are not expected to be completed before 2010 or beyond.

Proposed Move of the Spent Fuel to a Dry Storage Facility

SMUD has licensed and built a steel reinforced, concrete, dry storage facility on the Rancho Seco property. This Independent Spent Fuel Storage Installation will hold as many as 22 sealed, airtight, 126 ton, stainless steel canisters. Each canister is capable of securely containing 24 spent fuel assemblies. There are 13 such dry storage facilities operating in the U.S. at this time.



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RANCHO SECO NUCLEAR POWER PLANT, Continued

Spent Fuel Movement and Decommissioning Schedule

- Beginning in 2001 -Spent Fuel canisters (22) move to the dry storage facility
 - 2014 - 2027 (approximate) - Spent Fuel removal by DOE
 - 2008 - Rancho Seco site available for general industrial use (radiological decommissioning complete).
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Spent Fuel Movement and Transfer Process

Each 126-ton fuel storage canister will be submerged in the existing spent fuel pool, and as many as 24 fuel assemblies placed inside. Once filled with fuel assemblies, the canisters will be dried, filled with helium, sealed, welded and tested for leaks. Each canister will be placed, in turn, in a protective transportation cask, and loaded onto a heavy-duty, multi-axle trailer. The trailer is towed, very slowly, to the dry storage facility located approximately 1/3 mile west of the plant. (Note: 21 canisters will contain nuclear spent fuel and 1 will hold other radioactive nuclear materials). At the storage facility, each of the 22 canisters will be pushed slowly into a storage vault by hydraulic ram. The door to the vault will be bolted and welded shut.



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RANCHO SECO NUCLEAR POWER PLANT, Continued

NOTE: The Plant Site Available for Use before the Spent Fuel Removed to a DOE Facility

As listed in the Spent Fuel Movement and Decommissioning Schedule, the Rancho Seco plant site will complete radiological cleanup and decommissioning by 2008. The plant site will then be available for general industrial use, possibly another non-nuclear electric generating plant. The spent fuel dry storage facility has been built far enough away (1/3 mile to the west) so as to allow other uses of the plant site. The dry storage facility will remain as a radioactive material controlled area until the fuel is removed (around 2014).



Safety

Every aspect of the design, building, and maintenance of the Spent Fuel Storage Installation, as well as the spent fuel transfer process, has been carefully reviewed by SMUD engineers and approved by the U.S. Nuclear Regulatory Commission (NRC). As licensed and approved by the NRC, it has been determined that these radiological storage canisters represent a cost benefit to the public, and a very low risk to workers at the Rancho Seco site, or to the public or environment around the Rancho Seco property.
